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WE have received notice of the recent formation at New Orleans of "The Louisiana Society of Naturalists" with Prof. J. H. Dillard, of Tulane University, as President, and Mr. E. Foster, Secretary. The Society has already about 45 members, nearly all of whom are workers in some branch of natural science. It proposes to work up the fauna and flora of the State in a systematic manner, a task never before attempted. One has only to look at the map of Louisiana—possessing the mouth of one of the largest rivers in the world, numerous bayous, vast salt and freshwater lakes, large islands and bars, extensive swamps and forests—to see what grand possibilities are in store for this society if its members will study geographical distribution in the broad and yet detailed way in which it is done by the Biological Survey of the Department of Agriculture. We hope to receive reports from time to time of the results achieved by the society.

General Notes.

BOTANY.

Pfaff's Observations on the Nature of Ivy Poisoning.—Considering the frequency of *Rhus* poisoning and the abundance of our two noxious species, it is remarkable that the exact nature of the irritant has so long eluded discovery. The most widely divergent views upon the subject have from time to time been advanced. Khittel, in 1858, regarded the poisonous principle a volatile alkaloid; Maisch, in 1865, believed it a volatile acid; while Burrill at one time thought a bacterial germ might be the responsible agent. However, none of these observers has made a very satisfactory case, and it is accordingly a matter of more than ordinary interest that the poisonous principle has at length been isolated by Dr. Franz Pfaff, of the Harvard Medical School. As Dr. Pfaff's preliminary article¹ upon the subject is published in a medical journal and may, therefore, escape the notice of biologists who are not also physicians, his results may be summarized in these columns.

After a résumé of the investigations on *Rhus* poisoning, the fact is pointed out that skin irritants are, in general, rapid or slow in their

¹Journal of Experimental Medicine, II, 181-195, t. 10.

action according as they are more or less volatile. In the case of *Rhus* poisoning the latent period between exposure and the first symptoms of dermatitis, is a comparatively long one, amounting often to several days. This would suggest that the poison is not a volatile substance but something of a more fixed nature. However, as the prevailing opinion strongly favored the idea that *Rhus* poison pervaded the air in the neighborhood of the plant, Dr. Pfaff first proceeded to extract by steam distillation Maisch's "toxicodendric acid," which after combination with barium and sodium was found to be nothing more nor less than acetic acid. He then tried quite a different plan and by distilling alcoholic extracts of *Rhus toxicodendron* and *R. venenata* he obtained a black oily residue, which when purified gave an oil of agreeable odor. This oil was readily soluble in alcohol, ether, benzol, etc., but insoluble in water. On prolonged exposure to air it turned to a resin. The effects of the oil, for which the appropriate name *Toxicodendrol* is suggested, were repeatedly tried upon the persons of several assistants and others offering themselves as subjects. In all cases it proved a most active skin irritant, producing, even when applied in very small quantities, highly characteristic cases of *Rhus* poisoning. There can, therefore, be scarcely a doubt that the true principle has now been discovered.

Notwithstanding the popular impression that a volatile poison emanates from the *Rhus*, which thus acts upon sensitive persons even at a distance, no signs of such action have been detected by Dr. Pfaff and his assistants. Although they have experimented upon many pounds of fresh *R. toxicodendron* and *R. venenata*, no case of poisoning has occurred except after actual contact with the plants or with objects which the plants have touched. Dr. Pfaff suggests that the pollen may at the time of anthesis act as a transporting agent, but that the popular opinion has probably arisen through frequent cases of poisoning by unconscious contact with the plants or with clothing or other objects to which the viscid oil has adhered. The extended latent period, of course, adds greatly to the difficulty of eliminating such possibilities in particular cases. The practical outcome of Dr. Pfaff's discoveries is that we may now have an intelligent treatment in cases of *Rhus* poisoning, and he points out that the best remedy at all stages is the very simple one of removing the irritant by thoroughly brushing the affected parts with soap and water, while on the other hand, the application of oils, vaseline, or even alcohol, if not at once removed, only serves to spread the poisonous principle, since it is readily soluble in these media.

The newly discovered toxicodendrol appears to be present in all parts of the plant, even in the roots. Old and dried stems also yielded it. No difference has as yet been detected between the oil extracted from *Rhus toxicodendron* and that from *R. venenata*. Successful analyses have not yet been made, but further investigations along these lines are in progress in Dr. Pfaff's laboratory. It is to be hoped that he will extend his researches to other species of *Rhus*, notably *R. pumila* Michx., concerning which there has been considerable controversy, some writers maintaining its innocence, others its extreme virulence.—B. L. ROBINSON.

Botany in Detroit.—The botanists appeared to share the feeling of many other scientific men that it was inadvisable to hold a separate meeting of the American Association for the Advancement of Science, preferring to arrange for a joint meeting with the British Association which met a week later in Toronto. At any rate, the botanists pretty generally did not go to Detroit. When Section G organized on Monday forenoon, there were in addition to the Vice-President and Secretary but three duly qualified members who were eligible to appointment upon the sectional committee, and it was not until the second day that all the committees were filled. And yet in spite of this discouraging beginning, the sessions were interesting and profitable.

Vice-President Atkinson delivered his address upon "Experimental Morphology" on Monday afternoon, August 9th, detailing with some particularity the results of his experiments upon ferns of the genus *Onoclea*, in which by mutilation at certain periods he was able to bring about the transformation of the sporophyll into a normal or nearly normal foliage leaf. The possibility of applying experimental methods to the solution of many morphological problems was discussed at some length.

The following papers were presented, some in extenso and others by title only.

Trillium grandiflorum, its variations, normal and teratological, by Charles A. Davis.

A discussion of the structural characters of the order Pezizinae of Schroeter, by J. E. Durand.

The taxonomic value of fruit characters in the genus *Galium*, by K. E. Wiegand.

Report upon the progress of the botanical survey of Nebraska, by Charles E. Bessey.

Changes during winter in the perithecia and ascospores of certain Erysipheae, by B. T. Galloway.

The Erysipheæ of North America, by B. T. Galloway.

Some contributions to the life-history of *Haematococcus*, by L. R. Jones.

Bacteriosis of Carnations, by Albert F. Woods.

Wakker's Hyacinth bacterium, by Erwin F. Smith.

Notes on some new genera of fungi, by George F. Atkinson.

Are the trees receding from the Nebraska plains?, by Charles E. Bessey.

Reproductive organs and embryology of *Drosera*, by C. A. Peters.

Development of some seed-coats, by J. O. Schlatterbeck.

Contributions on the wild and cultivated roses of Wisconsin and neighboring States, by J. H. Schuette.

Morphology of the flower of *Asclepias cornuti* by Fanny E. Langdon, presented by V. M. Spalding.

Comparison of the pollen of *Pinus*, *Taxus* and *Peltandra*, by George F. Atkinson.

Some characteristics of the foothill vegetation of western Nebraska, by Charles E. Bessey.

On the distribution of starch in woody stems, by B. Shimek.

Mechanism of root-curvature, by J. B. Pollok, presented by V. M. Spalding.

The toxic action of phenole in plants, by R. H. True and C. G. Hunkel.

Cellulose ferment, by F. C. Newcombe.

Is the characteristic acidity of certain species of the Arum family a mechanical or a physiological property or effect, by Charles P. Hart.

How plants flee from their enemies, by W. J. Beal.

Stomata on the bud-scales of *Abies pectinata*, by A. P. Anderson.

Comparative anatomy of the normal and diseased organs of *Abies balsamea* affected with *Aecidium elatinum*, by A. P. Anderson.

On a new and improved self-registering balance, by A. P. Anderson.

Several other papers were presented, the titles of which were not obtained, and two hours were given to a joint session with the Zoological Section in the discussion of Organic Selection as presented by H. F. Osborn.

In the Botanical Club, it was found on assembling, that President, Vice-President and Secretary were absent; accordingly J. J. Davis was elected President, and Albert F. Woods, Secretary. The following notes were presented:

An epidemic of *Erysiphe communis* on *Polygonum aviculare*, by Charles E. Bessey, noting the universal presence of this parasite upon the host mentioned in eastern Nebraska in 1897.

A phosphorescent mosquito (*Chironomus* sp.), by Charles E. Bessey, noting phosphorence upon all parts of the insect which, while living, was evidently suffering from some disease. No hyphæ or bacteria were found after careful examination, although the presence of the latter is suspected.

Photographs of the Botanical Gardens of the Michigan Agricultural College were shown by W. J. Beal.

Charts of fungi and large sheets of preparations of weeds, to be used in botanical lectures before distant audiences were shown by W. J. Beal.

Dicranum spurium and some other mosses, by R. H. True, noting certain structural peculiarities.

Sensitive stamens in *Opuntia*, by Charles E. Bessey, (*O. fragilis* and *O. missouriensis*).

Some south Michigan Oaks, by Messrs. Britton and Wheeler, being the report of a committee which visited some oaks near the city. The trees in question may belong to the species *Quercus texana* and *Q. michauxii*, but further study is necessary.

On a method of preserving chlorophyll-bearing tissues, by A. F. Woods. After precipitating the chlorophyll with copper, the material (as leaves, etc.) may be preserved indefinitely in glycerine jelly.

Why moss-capsules nod, by R. H. True, concluding that while the curvature is geotropic, the direction is influenced by light.

The botanical garden of the University of Michigan was spoken of by V. M. Spalding.

Frost injury to fruit trees and the falling of *Ailanthus* leaves were discussed by A. D. Selby.

Professor Conway MacMillan, of the University of Minnesota, Minneapolis, Minnesota, was elected President for the ensuing year.

Professor C. B. Waldron, of the University of North Dakota, Fargo, N. D., Vice-President.

A. B. Seymour, Harvard University, Cambridge, Mass., Secretary.

CHARLES E. BESSEY.

The Botanical Society of America held its third Annual Meeting in Toronto, August 17th and 18th. The address of the retiring President, Prof. C. E. Bessey, upon the Phylogeny and Taxonomy of the Angiosperms, will be published in full by the Society. The following papers were read:

B. L. Robinson: Ecblastesis in *Lepidium apetalum*.

J. C. Arthur: Movement of protoplasm in cœnoecytic hyphæ.

J. M. Coulter : The pollen grain and the antipodal region.

D. P. Penhallow : Studies of the species of *Picea*.

H. J. Webber : The fertilization of *Zamia*.

D. T. McDougal and D. H. Campbell : Report upon the proposed tropical laboratory.

E. L. Greene : Bibliographical difficulties.

The following officers were elected for the ensuing year : President, Dr. N. L. Britton ; Vice-President, Prof. J. C. Arthur ; Secretary, Prof. C. R. Barnes ; Treasurer, Arthur Hollick. The next meeting will be held in Boston just previous to the meeting of the American Association for the Advancement of Science.

Government Timber-tests.—The Division of Forestry of the United States Department of Agriculture issued some months ago a summary of mechanical tests on thirty-two species of American woods (Circular 15) which is worthy of something more than a passing remark. These tests were made in St. Louis, Mo., by Professor J. B. Johnson. This work has been carried on for six years, resulting in the collection of a great deal of valuable information in regard to the timbers investigated. The work thus far has been very carefully done, and the results cannot but prove of the greatest value to engineers and others who make use of timber for large constructions. It is a pity that the Chief of the Division has to say "at the present writing all work in timber-testing has been abandoned." It is to be hoped that the Secretary of Agriculture will make strenuous efforts to secure the means for continuing the work. Certainly our American timbers are worthy of being carefully studied, and having their values rated in standard works on the strength of materials. A Secretary who wishes to bring things American to the favorable notice of the world could not do it more certainly than by securing the exact data demanded by engineers as to the value of our native timbers.—CHARLES E. BESSEY.

Notes.—J. M. Greenman, of the Gray Herbarium of Harvard University, contributes three papers to the Proceedings of the American Academy of Arts and Sciences (Vol. XXXII, No. 16), namely, a Revision of the Mexican and Central American Species of *Houstonia*, a Key to the Mexican Species of *Liabum*, and Descriptions of new or little-known Plants from Mexico.

Among the recent papers on mosses is an important one by J. Cardot on the Mosses of the Azores and of Madeira, in the Eighth Annual Report of the Missouri Botanical Garden. It includes twenty-four

pages of text, consisting of an annotated catalogue with descriptions of new species, and eleven plates.

Dr. J. C. Arthur's bulletin (65, Purdue) on Formalin for prevention of Potato Scab, shows that by the use of this substance "seed-potatoes" may be practically freed from scab germs by an immersion for two hours in a solution of the approximate strength of 1:300.

In a recent number of the Journal of School Geography, Professor Conway MacMillan contributes some useful notes for teachers on the Geographical Distribution of Plants. Copies can probably be obtained of the author by addressing him at the University of Minnesota.

Professor G. B. Frankforter, of the University of Minnesota, has begun the chemical study of the common poke-weed (*Phytolacca decandra*), and has published the first part of his results in the American Journal of Pharmacy. Among the results thus far obtained is the remarkably high per cent. (41.62) of potassium oxide found in the ash.

From the Experiment Station Record we learn that the following amounts were included in the Congressional appropriations for the United States Department of Agriculture for the fiscal year 1897-8, viz.: Division of Botany, \$23,800; Division of Agrostology, \$18,100; Division of Forestry, \$28,520; Division of Vegetable Physiology and Pathology, \$26,500. This is hopeful; nearly \$100,000 for the study of some phase of botanical science! But one is disappointed in finding that Congressmen have wasted \$130,000 for a free distribution of seeds. We hoped that the day of this unwisdom had passed.—CHARLES E. BESSEY.

ZOOLOGY.

A List of the Birds of the Vicinity of West Chester, Chester Co., Pennsylvania.—(*Continued from page 814.*)—

106. *Dendroica aestiva* (Gmel.), Yellow Warbler. Rather common summer resident, but more abundant during the migration period. (Earliest spring occurrences: May 5, 1888; May 14, 1889).

107. *D. caerulescens* (Gmel.), Black-throated Blue Warbler. Abundant migrant. (Spring occurrences: May 14, 1887; May 9-12, 1888; May 11, 1889; May 9, 1891. Fall occurrences: Sept. 7-29, 1889; Sept. 23 to Oct. 5, 1890).

108. *D. coronata* (Linn.), Myrtle Warbler. The most abundant migrant of the family, unless *Compsothlypis americana* should be assigned